

coupling a transducer that converts mechanical power to electrical power to a disturbance,
measuring a mechanical state of the disturbance with a sensor,
controlling an electrical circuit coupled to the transducer based on the measured mechanical state,
extracting power from the transducer using the electrical circuit,
storing extracted power, and
powering the electrical circuit with power extracted from the disturbance.

5. (Twice Amended) A system for extracting power, comprising:

a transducer that converts mechanical power to electrical power, the transducer configured for coupling to a disturbance,
an electrical circuit connected across the transducer, the electrical circuit being configured such that a peak voltage experienced by the transducer is greater than two times higher than any peak voltage of an open circuit transducer due to the disturbance alone, the electrical circuit including

an inductor including first and second terminals, the first terminal being connected to a first terminal of the transducer,
a first subcircuit connected to the second terminal of the inductor and a second terminal of the transducer, the first subcircuit including a switch, and
a second subcircuit connected to the second terminal of the inductor and the second terminal of the transducer, the second subcircuit including a switch, and
a storage element connected to the electrical circuit for storing extracted power.

7. (Amended) A system for extracting power, comprising:

a transducer that converts mechanical power to electrical power, the transducer configured for coupling to a disturbance,
an electrical circuit connected across the transducer, the electrical circuit being configured such that a peak voltage experienced by the transducer is greater than two times higher than any peak voltage of an open circuit transducer due to the disturbance alone, and

a storage element for storing extracted power, the storage element and the electrical circuit being connected such that the storage element supplies power to the electrical circuit.

8. (Twice Amended) A system for extracting power, comprising:

a transducer that converts mechanical power to electrical power, the transducer configured for coupling to a disturbance,

an electrical circuit connected across the transducer, the electrical circuit being configured such that a peak voltage experienced by the transducer is greater than two times higher than any peak voltage of an open circuit transducer due to the disturbance alone,

a storage element connected to the electrical circuit for storing extracted power, and
an independent power source for supplying power to the electrical circuit.

9. (Twice Amended) A system for extracting power, comprising:

a transducer that converts mechanical power to electrical power, the transducer configured for coupling to a disturbance, and

an electrical circuit connected across the transducer, the electrical circuit being configured such that a peak of the integral of the current onto and off the transducer is greater than two times higher than any peak of an integral of a current of a short circuit transducer due to the disturbance alone, the electrical circuit including

an inductor including first and second terminals, the first terminal being connected to a first terminal of the transducer,

a first subcircuit connected to the second terminal of the inductor and a second terminal of the transducer, the first subcircuit including a switch, and

a second subcircuit connected to the second terminal of the inductor and the second terminal of the transducer, the second subcircuit including a switch, and

a storage element connected to the electrical circuit for storing extracted power.

11. (Amended) A system for extracting power, comprising:

a transducer that converts mechanical power to electrical power, the transducer configured for coupling to a disturbance, and

an electrical circuit connected across the transducer, the electrical circuit being configured such that a peak of the integral of the current onto and off the transducer is greater than two times higher than any peak of an integral of a current of a short circuit transducer due to the disturbance alone, and

a storage element for storing extracted power, the storage element and the electrical circuit being connected such that the storage element supplies power to the electrical circuit.

12. (Twice Amended) A system for extracting power, comprising:

a transducer that converts mechanical power to electrical power, the transducer configured for coupling to a disturbance, and

an electrical circuit connected across the transducer, the electrical circuit being configured such that a peak of the integral of the current onto and off the transducer is greater than two times higher than any peak of an integral of a current of a short circuit transducer due to the disturbance alone,

a storage element connected to the electrical circuit for storing extracted power, and
an independent power source for supplying power to the electrical circuit.

37. (Amended) A system, comprising:

a transducer that converts mechanical power to electrical power, the transducer configured for coupling to a mechanical disturbance, and

an electrical circuit connected across the transducer, the electrical circuit containing active switches such that all electrical power supplied to the transducer is derived from power extracted from the mechanical disturbance.